RS-LS
REGENERATION
Planting
North Dakota

September 2, 1943

To: Raphael Zon, Director

From: Paul O. Rudolf, Silviculturist

Subject: Status of North Dakota work in August 1943

From August 23 to 27 I was on a trip to North Dakota to inspect the cultivation work and to check on the plantations at Denbigh. Following is a brief report on things as I found them.

Good Growth in Plantations

The plantations, on the whole, look better than they did this spring. Although most of the smaller pines and some of the junipers which showed winter damage in May have not recovered, growth on the remaining trees has been excellent. Many cottonwoods have grown 24 to 36 inches this year, Siberian elms 15-40 inches, boxelders 15-30 inches, green ash 6-9 inches, Russian olive 20-40 inches, caragana 12-20 inches, junipers 6-12 inches, ponderosa pine and Scotch pine 8-12 inches. Mortality since spring has been negligible.

The cottonwood in strips (P60-66) has made quite good growth again this year. Some trees are now 15 feet tall, although the average is probably not over 10 feet. Most of the trees in these strips have been defoliated at the tips by an insect. (This is not so common in the other cottonwood plantings.) Practically all the cottonwoods have leaf rust, although this does not seem to bother them much. The underplantings in P-65 show about the same results as in the spring, with the pines essentially wiped out. Some of the jack pines are sending up shoots below the point of nipping, but it is doubtful if they can ever amount to much.

The estimate of winter damage to Siberian (Chinese) elm made this spring was confirmed. About 60 percent of the trees were frozen back last winter. However, all the trees have sprouted; some have grown back to the height they reached last year, and most of them have attained at least half that height. Although their height growth has been retarded, these trees are still useful for windbreak purposes.

Arboretum Conditions Improved

Although fall or very early spring sowing is recommended for grasses, the seedings made late this May to stabilize the inter-block areas fortunately resulted in fair to good stands. Cool, wet weather, combined with heavy sowing, undoubtedly were the reasons for the success. Rye was seeded in mixture to provide a quick growth which would hold the soil in place and protect the grass seed and seedlings. Apparently the rye was diseased, however, since it came up reddish in color, grew to about 4 inches and then died. In about one month, however, grass was coming through in good shape. The mixture sown included western wheat grass, crested wheat grass, Canada needlegrass, and brome grass. Seeding was done at about 16 pounds per acre instead of the 8 pounds per acre recommended by the Soil Conservation Service.

An ocular survey of the individual plots gave these results:

Plot No.	Species	Survival	Height range	Remarks
			Feet	
1	Black spruce	0	-	Complete failure
2	Cottonwood	Good	3-12	Crowns interlacing
3	American elm	Good	2- 6	
4	Ponderosa pine	Good	1- 2	Western Nebraska source
5	Northern white cedar	Poor	1±	
6	Douglas fir	Very poor	1±	
7	Jack pine	Fair	1- 2	
8	Siberian larch	Fair	1- 2	
9	Ponderosa, Scotch and Chinese elm pine	Fair	1- 2	Mostly ponderosa left
10	Norway spruce	Very poor	1±	
10A	Basswood	None	-	
11	Tamarack	Good	2- 8	
12	Hackberry	Good	1- 7	
13	Ponderosa pine	Good	1- 3	Medora, N. Dak. source
14	Ponderosa pine	Good	1- 2	Black Hill, S. Dak. source
15	Ponderosa pine	Fair	1- 3	Glendive, Mont. source
16	Red pine	None	-	
17	Rock elm	3 percent	-	
18	(Black haw (Pyramidal juniper	Poor	1- 2	
19	Rocky Mountain red cedar	Fair	1- 4	Medora, N. Dak. source
20	Hard maple	None	-	
20A	Scotch pine	Poor	1- 2	Finland source

Plot No.	Species	Survival	Height range	Remarks
			Feet	
(Continued)				
21	Not planted	-	-	
22	Blue spruce	Good	1- 2	Colorado source
23	Western white spruce	Very good	2- 3	Custer, S. D. source
24	Russian golden willow	Good	5-10	Crown closed in
25	Russian mulberry	Good	3- 4	
26	Rocky Mountain red cedar	Good	1- 2	Butte Creek, Mont. source
27	Mountain ash	None	-	
28	Amur maple	Poor	1- 2	
29	Boxelder	Very good	6- 9	Crowns densely closed
30	Manchurian ash	Poor	1- 2	
30A	Chinese juniper	Poor	1- 2	
31	Austrian pine	Poor	1- 2	
32	White spruce	Good	1- 3	
33	Dwarf juniper	Fair	1±	
34	Russian olive	Good	4- 7	Crowns well closed in
35	Tamarix	Fair	1- 3	Not very thrifty
36	Limber pine	Fair	1±	
37	Black locust	None	-	East Tawas, Mich. source
38	Black locust	None	-	Oakes, N. Dak. source
39	Eastern red cedar	Poor	1±	
40	Diamond willow	Very poor	-	
40A	Mugho pine	None	-	

Hjellum has been instructed to seed the fail or near fail plots to grass this fall.

Cultivation Well Done

As a result of favorable moisture conditions weed growth was unusually heavy during 1943. In addition the equipment available for cultivation was not ideal; the Farmall tractor did not have enough traction to pull a weighted disk up small slopes, particularly in loose sand, and a different disk would have been more satisfactory. In spite of these adverse conditions a reasonably good job of cultivation was done. Over the bulk of the area the spaces between the rows are quite clean. Where it was impossible to pull the weighted disk, however, some vegetation remains.

The plantations were cultivated late in May, June, July and August. During the last cultivation the most common weed was the wild sunflower which had come in abundantly since the July cultivation.

Because very few weeds came in between the plants during August it was recommended that those plantations which had been cross-cultivated previously be given only one-way cultivation in late August.

New State Forester Contacted

The new State Forester, Mr. C. N. Nelson, was contacted during a visit to Bottineau on August 25. Trained as a science teacher, Mr. Nelson taught at the Bottineau High School and at the North Dakota State School of Forestry previous to reaching his present position. Although he has had no training in that field, Mr. Nelson is much interested in forestry. The work at Denbigh, prospects for foresters, and woodlot problems in the Turtle Mountain area were discussed with Mr. Nelson. I also examined the school nursery and looked over some woodlots in the Turtle Mountain foothills with him. Associate State Forester Arnason and Assistant State Forester Baraboo were also contacted and seed extraction methods were discussed with them.

While at Bottineau I called at the Soil Conservation Service office but all the men were out helping farmers thresh, so I saw none of them. I did see Walter Paul who was running some tests on treatment of aspen posts in a farmers co-op. pole yard which has been sponsored by the SCS.

Miscellaneous

Hjellum has been asked to go over the fences this fall, tighten up any loose wires, and replace any faulty posts. In general the fence is in pretty good shape, but constant maintenance is necessary.

The tractors and the remaining tools will be kept at Towner over winter.

Hjellum was instructed to sow grass seed this fall in the remaining open or low survival arboretum plots.

Arrangements were made with Stewart to cut the hay on unplanted and unreserved forties on the same basis as in the past.

A general inspection of the Towner nursery and park area was made for the Chippewa National Forest. A separate memorandum covering this inspection is being sent to the Supervisor at Cass Lake.

Cultivation Should be Continued

The plantations which were cultivated this year should be given 3 or 4 cultivations in 1944 to maintain them in thrifty condition. I believe similar arrangements can be made with Hjellum to carry on the 1944 cultivation.

It is recommended that a tractor be obtained from the Chippewa as suggested this spring. It is uncertain that we can continue to use the SCS tractor which we had this year.

Some alteration on the disks now used may be advisable. Some repairs will be needed at any rate.

P.O.Rudolf:CD

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